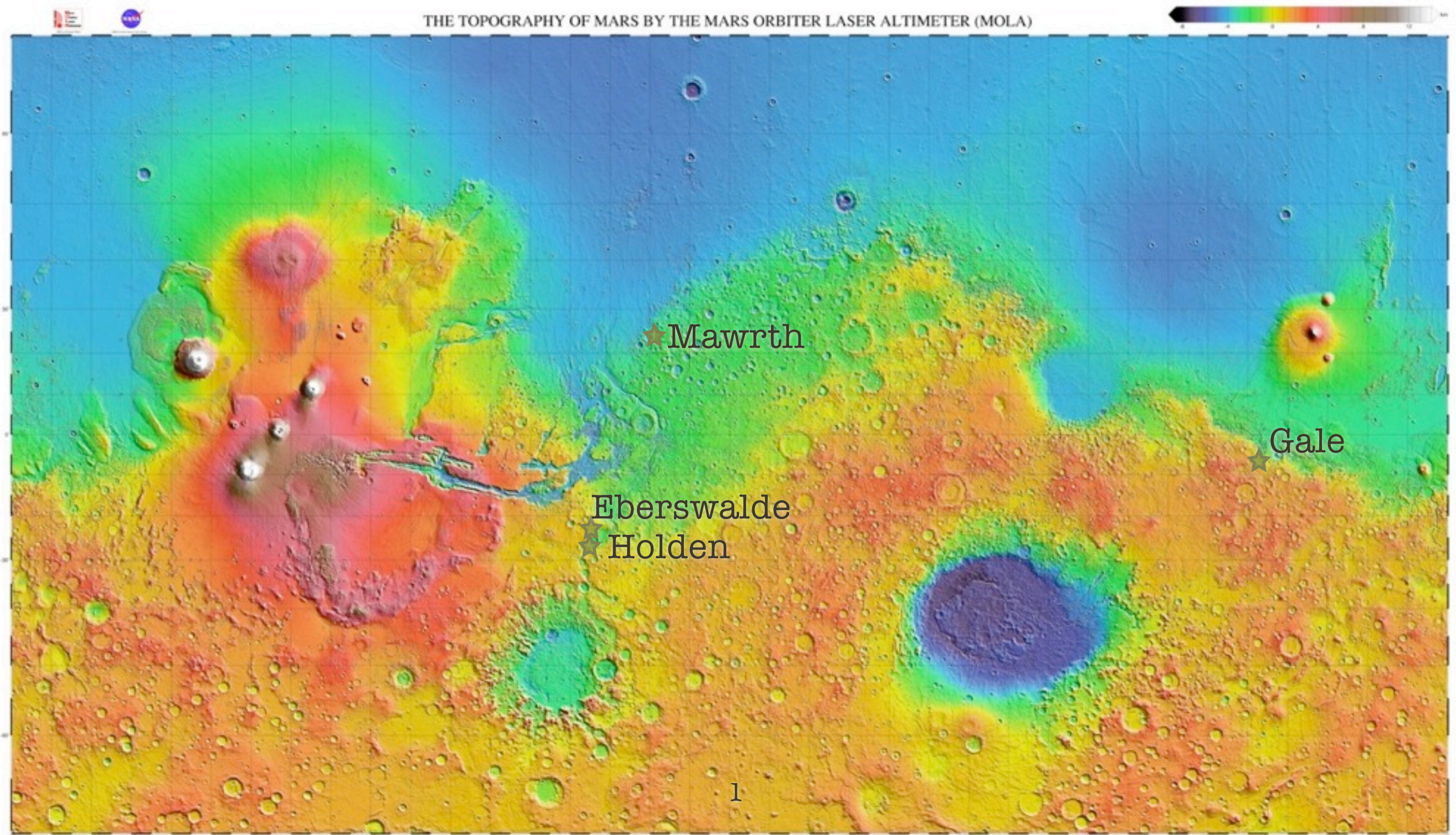


MSL Landing Site Working Group

Summary of Activities

Dawn Sumner, co-chair with Dave Vaniman



Members

- Ken Edgett & Dawn Sumner, co-chairs, March-June
- Dawn Sumner & Dave Vaniman, co-chairs, June-present
- Jim Bell, Gilles Dromart, Ken Edgett, Jen Eigenbrode, Ken Herkenhoff, Ralph Milliken, Doug Ming, Dawn Sumner, Dave Vaniman
- Other participants: Ryan Anderson, Melissa Rice, Amy Williams, Jen Griffes, John Grotzinger

Charter Objectives:

- “The process of selecting a landing site for MSL is a matter of great significance to mission science and requires attention and input from the MSL SOWG. ...
- ... we must engage in a set of careful deliberations that seek to optimize the surface mission given its objectives and goals. ...
- This process is regarded by the Project as functionally part of long-term Strategic Planning, and so constitutes the first responsibility of the SOWG regarding surface operations.”

Tasks:

- 1) Assessment of potential geologic targets ... for each site & identification / mapping of specific regions of interest... [using] the criteria established for evaluating sites at the 3rd community landing site workshop: diversity, context, habitability, and preservation, as defined in the presentations at that workshop.
- 2) Identification & compilation of hypotheses for the science targets, and developing high-level science observation plans that would test these hypotheses.
- 3) Work with community-based landing site advocates to insure transfer of their knowledge, ideas and insights to our database.
- 4) Work with the MSL Project engineering teams to identify candidate traverse routes that would link science targets .. and participate in the process to assess the resources (time, distance, other potential consumables) required...
- 5) Report out periodically to the larger SOWG (i.e., all MSL science team members and collaborators) and relevant Project personnel via telecon ... in which ideas and observations could be exchanged.

Process:

- March - July: 2 Organizational telecons, 3 LSWG telecons per Candidate Landing Site, 1 SOWG telecon per Candidate Landing Site, extra SOWG telecon on Mawrth
- August - September: Topical telecons on Mineralogy, Biomarkers, and Stratigraphy, 1 SOWG telecon per Candidate Landing Site with site advocate presentations.
- SOWG telecons had 25 - >40 participants each

Presenters:

- Team Members: Ryan Anderson, Jim Bell, David Bish, Dave Des Marais, Gilles Dromart, Ken Edgett, Jen Eigenbrode, Jack Farmer, Linda Kah, Ken Herkenhoff, Ralph Milliken, Doug Ming, Melissa Rice, Dawn Sumner, Dave Vaniman, James Wray
- Guests: Kevin Lewis, Ross Irwin, Joe Michalski, Dorothy Oehler (with contributions from collaborators)

Results:

- The discussions and presentations greatly expanded knowledge of potential landing sites and field areas by the MSL SOWG
- Process has triggered additional research on, and new ideas about the science that can be accomplished at each site.
- Enthusiasm for the science potential of all sites has increased.

Next Steps:

- Articulate specific science targets for each field site
 - What are the top priority scientific questions?
 - Where in the field site can they be addressed?
 - How can they be addressed by the MSL payload?
- Evaluate how resources affect the ability to address the top priority scientific questions. For example:
 - Can we access the necessary outcrops?
 - How much time and energy is required for access? For analysis?
 - How many science targets can be accessed in the primary mission?
 - How do tradeoffs between mission duration, energy supply, and instrument degradation affect science returns?
- Science planning to balance analysis of targets of opportunity with high priority science investigations

Process:

- Dave Vaniman & a new co-chair for Oct - Dec
- LSWG will work closely with JPL engineers, first to evaluate terrain effects on science return
- Articulate and iterate high priority science targets using input from this workshop and the SOWG
 - Work closely with representatives of the broader community to ensure identification of worthy targets; use mapping results to optimize resource evaluation; etc.
- Evaluate the effects of engineering constraints on science potential for each site
- Produce new ideas, new data, and new insights!

Next Steps:

- Articulate specific science targets for each field site
 - What are the top priority scientific questions?
 - Where in the field site can they be addressed?
 - How can they be addressed by the MSL payload?
- Evaluate how resources affect the ability to address the top priority scientific questions. For example:
 - Can we access the necessary outcrops?
 - How much time and energy are required for access? For analysis?
 - How many science targets can be accessed in the primary mission?
 - How do tradeoffs between mission duration, energy supply, and instrument degradation affect science returns?
- Science planning to balance analysis of targets of opportunity with high priority science investigations